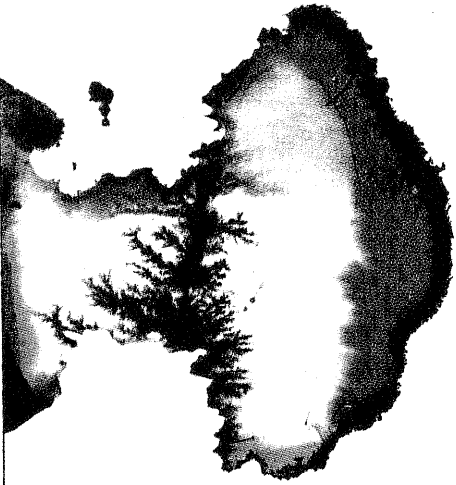


Exhibit D

The Meaning of Evolution—A Study of the History of Life and of Its Significance for Man—A world-famous scientist goes far beyond Darwinism in this book to a dis-



the Meaning of Evolution

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**the
Meaning
of
Evolution**
George Gaylord Simpson

impasse. Discovery of the facts of genetics and integration of these with knowledge of life from other fields of study have led out of this impasse and produced a theory that no longer gives motive for vitalistic or finalistic evasions.

All-over progress, and particularly progress toward any goal or fixed point, can no longer be considered as characteristic of evolution or even as inherent in it. Progress does exist in the history of life, but it is of many different sorts and each sort occurs separately in many different lines. One sort of progress in structure and function that stands out as particularly widespread and important is increasing awareness of the life situation of the individual organism and increasing variety and sureness of appropriate reactions to this. Among the many different lines that show progress in this respect, the line leading to man reaches much the highest level yet developed. By many other criteria of progress, also, man is at least among the higher animals and a balance of considerations warrants considering him the highest of all.

Man is the result of a purposeless and natural process that did not have him in mind. He was not planned. He is a state of matter, a form of life, a sort of animal, and a species of the Order Primates, akin nearly or remotely to all of life and indeed to all that is material. It is, however, a gross misrepresentation to say that he is *just* an accident or *nothing but* an animal. Among all the myriad forms of matter and of life on the earth, or as far as we know in the universe, man is unique. He happens to represent the highest form of organization of matter and energy that has ever appeared. Recognition of this kinship with the rest of the universe is necessary for understanding him, but his essential nature is defined by qualities found

tance. Its possibility arises from man's intelligence and associated flexibility of response. His reactions depend far less than other organisms' on physically inherited factors, far more on learning and on perception of immediate and of new situations. His unique status also involves an unprecedented degree of foresight and the development of a symbolic system of communication, language, entirely absent to any other now living animals.

Intelligence and foresight bring with them the power and the need for constant choice between different courses of action. Man plans and has purposes. Plan, purpose, goal, all absent in evolution to this point, enter with the coming of man and are inherent in the new evolution, which is confined to him. With them and with foresight comes the need for criteria of choice. Good and evil, right and wrong, concepts irrelevant in nature except from the human viewpoint, become real and pressing features of the whole cosmos as viewed by man—the only possible way in which the cosmos can be viewed morally because morals arise only in man.

Discovery that the universe apart from man or before his coming lacks and lacked any purpose or plan has the inevitable corollary that the workings of the universe cannot provide any automatic, universal, eternal, or absolute ethical criteria of right and wrong. This discovery has completely undermined all older attempts to find an intuitive ethic or accept such an ethic as revelation. It has not been so generally recognized that it equally undermines attempts to find a naturalistic ethic which will flow with absolute validity from the workings of Nature or of Evolution as a new Revelation. Such attempts, arising from discovery of the baselessness of intuitive ethics, have com-